RESEARCH ARTICLE

# Stress, Stressors, and Stress **Responses of Student Nurses** in a Government Nursing School

Leodoro Jabien Labrague

Associate Dean, College of Nursing & Health Sciences, Samar State University, Philippines

#### **Abstract**

Background: Stress during nursing education and training has been documented. Although the body of evidence regarding stress among student nurses is growing over the world, there is little in the literature assessing stress among Filipino nursing students enrolled in a government nursing school.

Aim: The present study explored the level of stressors, and physio-psycho-social responses to stress among Filipino student nurses in a government nursing school.

Method and Material: A descriptive design was adopted in this study. A total of 61 students who were enrolled in the nursing program were taken as study respondents. Research data were collected utilizing the Perceived Stress Scale (PSS) and Physio-psycho-social Response Scale (PPSRS). Data analysis was performed with the statistical package for the social sciences (SPSS) version 16. Results: Findings indicated that student nurses experienced moderate level of stress [mean (SD) = 2.18 (0.43)] and were in good physio-psychosocial health [mean (SD) =1.49 (0.45)]. Stress from assignments and workload [mean (SD) = 2.68 (0.58)] was the most common stressor identified, while emotional symptoms [mean (SD) =1.82 (0.67)] were the most common response to stress. In addition, students who reported higher level of stress were significantly more likely to experience physio-psycho-social health (r=0.3463, poor

p=0.0063). Result also revealed that perceived stress level decrease according to the year of attendance.

Conclusions: Results indicated that stress is very common in nursing education and it may have an impact on the physio-psycho-social health of the students. Knowledge on student nurses' stress levels, its sources, and stress responses would serve as an important input in identifying and planning effective interventions and strategies to reduce or prevent stress in nursing education and training thus, facilitating their learning both in the academe and clinical setting.

Keywords: Stress, Stressors, Perceived Stress Scale, Physio-Psycho-Social Response Scale

Corresponding author: Leodoro Jabien LabragueCollege of Nursing & Health Sciences, Samar State University, Philippines. Email Address: leo7 ci@yahoo.com

#### Introduction

tress in nursing education is acknowledged as one of the most important issues in the modern world. Lazarus & Folkman (1984) defined psycho-social stress as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being.1 Imbalance between the environment demands perceived resources that the individual has available to meet those demands. If the demands exceed the resources, stress can occur in the individual. Secondary appraisal occurs when an individual determines their capacity to manage the environmental demands.1

During nursing education and training, nursing students are frequently exposed to various stressors which may directly or indirectly impede their learning and performance. The nature of clinical education presents challenges that may cause students to experience stress. Moreover, the practical components of the program which is important in preparing students to develop into



professional nurse role by its nature have made the program even more stressful than other programs.

Studies indicated that nursing students perceived high level of stress <sup>2-3, 35</sup> and are prone to stress than other students.<sup>4</sup> This phenomenon is true iregardless their academic level.<sup>2,5-7</sup> Stecker<sup>8</sup> found that nursing students reported higher academic and external stress than students in physical therapy, pharmacy, dentistry and medicine.

Several studies suggested that there are many sources of stress during undergraduate nursing education and training. The most common sources of stress identified by students and faculty that relate to academics includes academic demands, 9 - 10 assignments and examinations, 11 high workload, 9, 12 - 13 and combining clinical work with academic demands. 9

Clinical sources of stress includes; fear of the unknown, <sup>13</sup> a new clinical environment, <sup>14, 17</sup> conflict between the ideal and real clinical practice, <sup>10, 15</sup> unfamiliarity with medical history, <sup>16</sup> lack of professional nursing skills, <sup>12,16</sup> unfamiliar patients' diagnoses and treatments, <sup>16</sup> providing physical, psychological and social care to patients, <sup>16</sup> fear of making mistakes, <sup>13,14,17</sup> giving medication to children, <sup>18</sup> and the death of a patient. <sup>19-20</sup> Oermann<sup>6</sup> found that stress experienced by nursing students in clinical practice increased as they progressed through the program.

Other reported sources of stress include negative interaction with instructors, 14, 21 being observed by instructors and being late, 17 poor relationships with clinical staff, 9,10,20 and even talking with physicians. 17 In the most recent study conducted by Pryjmachuk and Richards, 22 they found out that stress in nursing students arises from combination of personal and extracurricular factors rather than from the educational program itself. Meanwhile,

Seyedfatemi et al.,<sup>5</sup> reported that the most stressful situations are new friends and working with people they don't know.

Stress has a detrimental effect not only on the physio-psycho-social health of an individual but as well being as a whole. Researches have shown that excessive stress can be harmful to a student's academic performance, 23,36 welfare, 4 and could interfere with learning a complex, psychomotor skill.<sup>25</sup> Furthermore, stress could result to deleterious symptoms such as alcoholism and drug dependence, eating disorder, indiscriminate use of illegal substances, sleep disorder, suicide, 26 absenteeism.<sup>20</sup> mental health disorders,<sup>10</sup> and even psychological symptoms. 27, 28 Thus, the undergraduate years for student nurses is considered as one of the most sensitive period in their lifespan since learning during these years may be compromised due to stress reactions produced.

Despite the growing literature on stress among student nurses internationally, apparently little can be found on the literature highlighting experiences of Filipino student nurses. Therefore this study was conducted to appraise the level of stress, identify common stressors, and determine responses to stress among enrolled student nurses in a government nursing school. The results that could be gained from this study would provide essential and useful information for nurse educators in identifying students' facilitating their learning both in the academe and setting, and planning clinical effective interventions and strategies to reduce stress in clinical education.

# **Nursing Education in the Philippines**

Nursing in the Philippines underwent dramatic change during the recent years. With the increasing demand for nurses abroad such as the United States, the United Kingdom, Ireland and the Netherlands, the Philippines is losing highly skilled nurses. Ultimately, the current "brain

drain" of nurses would have negative impacts on the nursing workforce and would worsen the health crisis already plaguing our country. Stress during nursing education and training may also have negative effects on workforce as this may lead to a shortage of nurses entering into the clinical practice. Investigation looking into stress levels among future nurses is greatly needed in the light of current shortage of nurses globally.

#### Research Aim

The aim of the study was to identify the level of stress, common sources of stress, and physio-psycho-social responses to stress as well as to identify the determinants of stress among student nurses enrolled in a government nursing school.

# Method and Material Research Design

This study utilized a cross sectional descriptive design. This study design is appropriate because the main objective of this investigation was to assess stress levels and identify sources and responses to stress.

# **Participants**

The population of the study included all junior/third year (40) and senior/fourth year students (21) enrolled in the Bachelor of Science in Nursing (BSN) program in a government nursing school. No sampling procedure was performed since the entire population was taken as respondents. The freshmen and sophomore students were excluded since they have limited clinical experience prior to collection of data. The response rate was 100%. The paucity of information regarding stress among students in the university was the primary reason of choosing the particular school.

# **Instruments**

The self-report questionnaires consisted of three parts: 1) Demographic Information, 2) Perceived Stress Scale (PSS), and 3) Physio-psycho-social

Response Scale (PPSRS).

**Demographic Information** 

General information included age, gender, year level, family monthly income, hours spent for studying/day, and hours of sleep/night.

Perceived stress scale (PSS)

To examine nursing students' stress levels and types of stressors, the PSS was utilized. This instrument was developed by Sheu et al. It is a five-point Likert-type scale that consists of 29 items grouped into six factors, labeled as follows: 'Stress from taking care of patients' (8 items), 'Stress from teachers and nursing staff' (6 items), 'Stress from assignments and workload' (5 items), 'Stress from peers and daily life' (4 items), 'Stress from lack of professional knowledge and skills' (3 items), and 'Stress from clinical environment' (3 items). Each item is rated on a five-point Likert scale (0=never, 1=almost never, 2=sometimes, 3=fairly often and 4=very often). Usually, both total scores and individual subscale scores are measured. Higher scores indicate higher level of stress. To determine the level of stress, the following scaling was used; 2.67 - 4.00 for High Stress, 1.34 - 2.66 for Moderate Stress, and 0 -1.33 for Low Stress.16

This instrument showed internal-consistency reliability and test-retest reliability with a statistical value of 0.87.(Cronbach's alpha)

Physio-Psycho-Social Response Scale (PPSRS)

Responses to stress were assessed using the PPSRS developed by Sheu et. al<sup>16</sup>. The PPSRS describes nursing students' responses to and emotions caused by stress in clinical practice. It also measures the physio-psycho-social health status of students during clinical practice. The PPSRS consists of 21 items and each item is rated on a five-point Likert-type scale (0=never, 1=almost never, 2=sometimes, 3=fairly often and 4=very often). The PPSRS contains 21 items which



are divided into three subscales: 'Physical symptoms', 'Emotional symptoms' and 'Social-behavioural symptoms'. Both subscale scores and total scores are computed. A higher scores means presence of more and serious symptoms reported and poorer physio-psycho-social health status. To determine the level of stress, the following scaling was used; 2.67-4.00 for Poor Health Status, 1.34-2.66 for Good Health Status, and 0-1.33 for Best Health Status.

Reliability and validity testing of the instrument was done by Sheu et al. (2002). In this study, the cronbach's alpha was 0.82. Both questionnaires were pilot tested before distributed to the participants enrolled in the investigation.

## **Ethical Consideration**

The investigators sought the approval of the Health Ethics Committee of Samar State University before the actual investigation. Signed consent form was obtained from all respondents. Confidentiality and anonymity of the respondents were maintained all throughout the investigation.

# **Data Analysis**

The data were entered in Microsoft Excel and were computed by SPSS version 19. Descriptive statistics used include; percentage, mean, and frequency. Pearson's correlation coefficient was utilized to test the relationships between selected demographic profile, stress level, and stress response, while Fisher's t test was utilized to determine significance of correlations. A p-value of equal to or less than 0.05 was considered statistically significant.

# **Results**

Sixty one student nurses comprising of 21 (34.43%) junior/third year and 40 (65.57%) senior/fourth year students enrolled in the Bachelor of Science in Nursing (BSN) program in the university took part in the investigation. Out

of 61 students, 49 or 80.33% were female and 12 or 19.67% were male students with age ranges from 17 to 23 years with a mean of 20.1 years. Nearly half of the respondents (40.98%) belong to a family with a monthly income that ranges from PhP 5001 to PhP 15000. More than half of the respondents (60.66%, 37/61) reported to have spent 3 to 4 hours a day in studying, while 60.66% (37/61) claimed they have spent 5 to 6 hours/night in sleeping (Table1).

Table 2 depicts the information gathered from the respondents regarding sources of stress. The top five reported sources of stress by the students were "worry about poor grades" (mean=3.31,SD=0.83), "pressure from the nature and quality of clinical practice" (mean=2.80,SD=0.87), feelings of stress when a teacher's instruction is different from expectations" (mean=2.67,SD=0.78), "feelings that performance does not meet teachers' expectations" (mean=2.62,SD=0.88), and "feelings of pressure from teachers who evaluate students' comparison" performance by (mean=2.61,SD=1.09). Meanwhile, the least reported sources of stress were "inability to get along with group peers" (mean=1.19, SD=1.12), "not knowing how to communicate with patients" (mean=1.26, SD=1.07), "unable to provide patients with good nursing are" (mean=1.70, SD=0.88), "difficulties in changing from the role of a student to that of a nurse" (mean=1.85, SD=0.92), and "experience of competition from peers in school and clinical practice" (mean=1.87, SD=1.10). In general, students' responses on the PSS yielded a grand mean of 2.18 (SD=0.43) which is interpreted as "moderate stress".

Table 3 shows the six factors of PSS. When items were grouped into factors, mean for all items in each factor was calculated for each respondent. The overall means were then calculated on the basis of the respondents mean scores for each PSS items. Data indicated that the most common type of stressor identified by

students was "stress from assignments and workload" (mean=2.68, SD=0.58 followed by "stress from lack of professional knowledge and skills", (mean=2.26, SD=0.46). Meanwhile, "stress from peers and daily life" (mean=1.92, SD=0.69) was the least reported type of stressor.

Table 4 shows the students' responses on the PPSS. As gleaned on the table, students tend to be worried (mean=2.59, SD=0.92), nervous, anxious (mean=2.51, SD=0.89), and feel depressed and miserable (mean=1.93, SD=1.01) during their clinical education. In general, students tend to manifest emotional symptoms (mean=1.82, SD=0.67) as a reaction to stress, however, students' physio-psycho-social health and wellbeing in general was good (mean=1.50, SD=0.48) (Table 5).

Table 6 shows the correlation between perceived stressors, physio-psycho-social health and variables from students' information. reflected on the table, respondents' year level correlates significantly with "stress from lack of professional knowledge" (r=-0.479, p=>0.0001), "stress from assignment and workload" (r=-0.428, p=0.0006), "stress from clinical environment" (r=-0.255, p=0.0473), and "stress from peers and daily life" (r=-0.329, p=0.009). Family monthly income also shows statistically significant correlation with "stress from assignments and workload" (r=0.262, p=0.0414). Meanwhile, age correlates significantly with "emotional symptoms" (r=-0.263, p=0.04). Statistical analysis also shows statistically significant correlation between overall stress level physio-psycho-social health (r=0.3463, p=0.0063).

#### Discussion

This study investigated the level of stress, stressors, and physio-psycho-social responses to stress among Filipino student nurses in a government nursing school. Result of this investigation has demonstrated that perceived level of stress in Filipino student nurses was

considered as moderate stress. This finding is in keeping with the results obtained by previous authors. 12, 21, 29 However, in a study conducted among Greek student nurses stress level was mild. Stress in minimal amount can be beneficial on the person's wellbeing especially when faced with challenge and responsibility, however extension to or below these stress or excitement levels can harm to the individual when exposure is chronic. Findings of this study calls for a greater challenge for nurse educators in planning strategies to prevent recurrence of stress among students while keeping them motivated to achieve for a greater learning.

Data indicated that the most common type of stressor identified by students was stress from assignments and workload. This may be attributed to the present curriculum that they have had right now. Compared to nursing curriculum in other countries (in the United States students are only required to complete about 1000 hours of clinical training before graduation<sup>31</sup> while in Hongkong 1500 clinical hours are required<sup>32</sup>, and in the European countries, nursing schools would require a minimum requirement of 2300 hours practice in programmes leading to initial qualifications of nurses <sup>37</sup>), the Philippine nursing curriculum has the most number of required clinical training hours (2,346 clinical hours) before culmination from the program.<sup>33</sup> Moreover, student nurses are also loaded with projects, reports, term papers, quizzes, and examinations from other non-nursing subjects making the program tighter and heavier compared to other programs. This finding is a support to the claim of previous authors. 9, 12, 34

Stress from lack of professional knowledge and skill was also reported as one of the major sources of stress in this study. In spite of the rigid and rigorous training both in classroom and clinical area, students still felt that they still have a lot more to be learned while in the school and thus, they feared of committing mistakes while performing nursing skills in the clinical area. This



category is the most frequently reported by nursing students as reported by other authors. 16, 21, 34

Result also revealed that perceived stress levels decrease according to the year of attendance. Senior student nurses in presented lower levels of stress compared than junior student nurses. This could be due to the fact that, as they get into a higher level, they were able to adapt and adjust to the academic and clinical requirements of the program. Moreover, as they progress to the higher level of the program, they have already acquired and gained mastery in nursing skills necessary in their clinical experience and more or less develop more efficient and effective ways in dealing with different stressors. This result is similar with that of Kleehammer, et al., 14 study where in they found that junior nursing students showed a higher anxiety score than senior students. This result however refutes the findings of other authors. In contrast, Tully<sup>2</sup> reported that second-year students presented higher levels of stress than their first-year colleagues. Same findings also led Lo<sup>7</sup> to conclude that second-year students presented higher levels of stress than first-year students. Oermann<sup>6</sup> also found that stress experienced by nursing students in clinical practice increased as they progressed through the program. In a study conducted by Edwards et al., 38 and Papazisis et al., 35 among European nursing students, self reported stress was at the highest during the third year of the program.

Perceived levels of stress increase according to family monthly income. Students who belong to a family with higher income tend to perceived higher stress related to their workload and assignment. This may due to the fact that families with higher income tends to be more busy with regards to their business, personal and social relations that they may not be able to spend much time doing their assignments and other academic workload.

In this investigation, the perceived physiopsycho-social health in Filipino student nurses is considered as good health. This result is comparable with the result among Taiwanese, 16 Hongkong-Chinese<sup>12</sup> and Spanish<sup>34</sup> students. This could be an indication that students are able to cope up with various stressors faced during their nursing education. However, it was also evident from this investigation that perceived physiopsycho-social health decreases according to age. Younger students tend to experience or report emotional symptoms as a response to stress compared to that older students. This may be due to fact that as students get older, they gained not only better knowledge and clinical expertise but also with problem solving skills and stress preventive strategies necessary when faced with various stressors.

Core finding of this investigation was the significant correlations between perceived level of stress and perceived physio-psyho-social health. Students who perceive a higher level of stress were more likely to have poorer physio-psychosocial health. Tully<sup>2</sup> reported that high level of stress as possible risk for the health of the student. This result is an affirmation of the theory by Lazarus & Folkman's<sup>1</sup> that asserts that stress can affect people's physical, psychological and social health if adaptational outcomes cannot be achieved.

# **Conclusions**

It could be inferred from this investigation that Filipino student nurses, especially junior students were exposed to different stressors during their nursing education and training, however, their physio-psyho-social health in general was good. Results clearly show that stress may have an impact on the physio-psycho-social health of the students. Therefore, this study strengthens the theory of Lazarus & Folkman<sup>1</sup> that stress could have effects on people's health and wellbeing. The results provided essential and useful information for nurse educators in identifying

students' needs, facilitating their learning both in the academic and clinical setting, and planning effective interventions and strategies to reduce or prevent stress in nursing education and training. Moreover, nursing educators must be perceptive of these stressors and should strengthen students' coping skills to deal with the different stressors during nurse education and training. Furthermore, curricular revisiting and review should be conducted especially on the Related Learning Experiences or training hours requirement.

One of the strengths of this study is the inclusion of the entire population of the junior and senior student nurses in the university as respondents in the investigation. This ensures that there is no selection bias since respondents were selected purposively. However, this investigation was conducted among student nurses from one university only, and the "n" was small. Exclusion of student nurses from other university in other provinces may limit the generalizability of this investigation. Moreover, the research design could have affected the responses of the respondents since they were asked to recall their past clinical experience, some important stressful experiences may have not been recalled. Stress level can be changed over time or across encounters according to Lazarus and Folkman.1

Future research focusing on the different coping styles utilized by student nurses during stress situation and effective stress interventions must be ascertain.

## **Relevance to Practice**

Knowledge on student nurses' stress levels, its sources, and stress responses would serve as an important input in identifying and planning effective interventions and strategies to reduce or prevent stress in nursing education and training thus, facilitating their learning both in the academe and clinical setting.

#### **Competing Interest**

The author(s) declare that they have no competing interests.

#### References

- Lazarus, Richard S, Susan Folkman. Stress, appraisal, and coping. Springer Publishing Company, 1984.
- Tully A. Stress, Sources of stress and ways of coping among psychiatric nursing students. Journal of Psychiatric and Mental Health Nursing. 2004; 11 (1): 43-47.http://dx.doi.org/10.1111/j.1365-2850.2004.00682.x PMid:14723638
- Shriver CB, Sott-Stiles A. Health habits of nursing versus non-nursing students: a longitudinal study. Journal of Nursing Education 2000; 39(7): 308-314.
- 4. Beck D, Srivastava R. Perceived level and sources of stress in baccalaureate nursing students. Journal of Nursing Education 1991; 30(3): 127-33.
- Seyedfatemi N, Tafreshi M, Hagani H. Experienced stressors and coping strategies among Iranian nursing students. BMC Nursing 2007; 6 (1): 11http://dx.doi.org/10.1186/1472-6955-6-11 PMid:17999772 PMCid:2203983
- Oermann M.H. Differences in clinical experiences of ADN and BSN students. Journal of Nursing Education. 1998; 37(5):197-201. PMid:9605192
- Lo R. A longitudinal study of perceived level of stress, coping and self-esteem of undergraduate nursing students: an Australian case study. Journal of Advanced Nursing 2002; 39(2): 119-126. http://dx.doi.org/10.1046/j.1365-2648.2000.02251.x
- Stecker T. Well being in an academic environment. Medical Education 2004; 38, 465-478. http://dx.doi.org/10.1046/j.1365-2929.2004.01812.x PMid:15107080
- Nolan G, Ryan D. Experience of stress in psychiatric nursing students in Ireland. Nursing Standard 2008; 22(43), 35-43.PMid:18655505
- Evans W, Kelly B. Pre-registration diploma student nurses stress and coping measures. Nurse Education Today 2004; 24, 473-82.http://dx.doi.org/10.1016/j.nedt.2004.05.004 PMid:15312957
- Gibbons C, Dempster M, Moutry M. .Stress and eustress in nursing students. Journal of Advanced Nursing 2007; 61(3), 282-290.http://dx.doi.org/10.1111/j.1365-2648.2007.04497.x PMid:18197862
- Chan KL, So KW, Fong YT. Hong Kong baccalaureate nursing students' stress and their coping strategies in clinical practice. Journal of Professional Nursing 2009;25(5), 307-313.http://dx.doi.org/10.1016/j.profnurs.2009.01.018 PMid:19751936
- Pulido M, Augusto JM, Lopez E. Sources of stress in nursing students: a systematic review of quantitative



- studies. International Nursing Review. 2012; 59, 15–25. http://dx.doi.org/10.1111/j.1466-7657.2011.00939.x
- Kleehammer K, Hart AL, Keck J. G. Nursing students' perceptions of anxiety – producing situations in the clinical setting. Journal of Nursing Education 1990; 29(4), 183-87.PMid:2159066
- Lindop E. Individual stress among nurses in training: why some leave while other stay. Nurse Education Today 1991; 11(2): 172-179.http://dx.doi.org/10.1016/0260-6917(91)90146-2
- Sheu SL, Lin HS, Hwang SL. Perceived stress and physio-psycho-social status of nursing students during their initial period of clinical practice: the effect of coping behaviors. International Journal of Nursing Studies 2002; 39, 165-175.http://dx.doi.org/10.1016/S0020-7489(01)00016-5
- Kim KH. Baccalaureate nursing students' experiences of anxiety producing situations in the clinical setting. Contemporary Nurse 2003; 14(2), 145-155.http://dx.doi.org/10.5172/conu.14.2.145
   PMid:12785605
- Oermann MH, Lukomski AP. Experiences of students in paediatric nursing clinical courses. Journal of the Society of Paediatric Nurses 2001; 6(2), 65-72.http://dx.doi.org/10.1111/j.1744-6155.2001.tb00123.x
- Rhead M. Stress among student nurses: is it practical or academic? Journal of Clinical Nursing 1995; 4(6), 369-376.http://dx.doi.org/10.1111/j.1365-2702.1995.tb00038.x PMid:8535578
- Timmins F,Kaliszer M. Aspects of nurse education programmes that frequently cause stress to nursing students fact finding sample survey. Nurse Education Today 2002; 22, 203-11.http://dx.doi.org/10.1054/nedt.2001.0698
   PMid:12027601
- Pagana KD. Stress and threats reported by baccalaureate students in relation to an initial clinical experience. Journal of Nursing Education 1988; 27(9), 418-424.PMid:2852715
- Pryjmachuk S, Richards DA. Predicting stress in preregistration nursing students. British Journal of Health Psychology 2007; 12 (1), 125–144.http://dx.doi.org/10.1348/135910706X98524
   PMid:17288670
- Hughes BM. Study, examination, and stress: Blood pressure assessment in college students. Educational Review 2005; 57, 21-36.http://dx.doi.org/10.1080/0013191042000274169
- Sawatzky JAV. Understanding nursing students' stress: a proposed framework. Nurse Education Today 1998; 18 (2), 108–115.http://dx.doi.org/10.1016/S0260-6917(98)80014-2
- 25. Bell ML. Learning a complex nursing skill: Student

- anxiety and the effect or reclinical skill evaluation. Journal of Nursing Education 1991; 30(5), 222-226.PMid:1652007
- 26. Hawton K, Simkin S, Rue J, Haw C, Barbour F, Clements A, et al. Suicide in female nurses in England and Wales. Psychological Medicine 2002; 32, 239-250.http://dx.doi.org/10.1017/S0033291701005165 PMid:11866319
- Deary I J, Watson R, Hogston R. A longitudinal cohort study of burnout and attrition in nursing students. Journal of Advanced Nursing 2003; 43(1), 71-81.http://dx.doi.org/10.1046/j.1365-2648.2003.02674.x PMid:12801398
- Watson R, Deary I, Thompson D, Li G. A study of stress and burnout in nursing students in Hong Kong: A questionnaire survey. International Journal of Nursing Studies 2008; 45(10), 1534–1542. http://dx.doi.org/10.1016/j.ijnurstu.2007.11.003
   PMid:18241870
- 29. Sharma N, Kaur A. Factors associated with stress among nursing students. Nursing and Midwifery Research Journal 2011; 7(1), 12-21.
- Yerkes RM, Dodson JD. The relation of strength of stimulus to rapidity of habit-formation. Journal of comparative neurology and psychology 2004; 18(5), 459-482.http://dx.doi.org/10.1002/cne.920180503
- The California Board of Registered Nursing. Title 16.
   Professional and vocational regulations: Division 1426.
   required curriculum; prior approval. The California
   Board of Registered Nursing: California. 2005. Retrieved
   from http://www.rn.ca.gov.
- 32. The Nursing Council of Hong Kong. A reference guide to the syllabus of subjects and requirements for the preparation of registered nurse (general) in the Hong Kong Special Administrative Region. The Nursing Council of Hong Kong: Hong Kong. 2004. Retrieved from http://www.nchk.gov.hk.
- Philippine Board of Nursing. Policies and Standards for Bachelor of Science in Nursing (BSN) Program. CHED Memorandum Order No.14. Series of 2009. Retrieved from:
  - http://www.philippinenursingdirectory.com/commision-on-higher-education-ched/memorandum-order-no-14-series-of-2009-policies-and-standards-for-bachelor-of-science-in-nursing-bsn-program/
- 34. Jimenez C, Navia-Osorio PM, Diaz CV. Stress and health in novice and experienced nursing students. Journal in Advanced Nursing 2010; 66(22), 442-455.http://dx.doi.org/10.1111/j.1365-2648.2009.05183.x PMid:20423427
- Papazisis G, Tsiga E, Papanikolaou N, Vlasiadis I, Sapountzi-Krepia D. Psychological distress, anxiety and depression among nursing students in Greece. International Journal of Caring Sciences 2008; 1(1), 42 –

46.

- 36. Beddoe AE, Murphy SO. Does mindfulness decrease stress and foster empathy among nursing students? Journal of Nursing Education 2004; 43, 305-312. PMid:15303583
- 37. Fleming V, Holmes A. Basic nursing and midwifery education programmes in Europe. A report to the World
- Health Organization Regional Office for Europe. March 2005
- 38. Edwards D, Burnard P, Bennett K, Hebden U. A longitudinal study of stress and self-esteem in student nurses. Nurse Education Today 2010; 30(1), 78.

# **ANNEX**

Table 1. Students' Demographic Variables

Char	N (%)	
Gender	Male	12 (19.67)
	Female	49 (80.33)
Age	13 – 16 years old	0 (0)
	17 – 20 years old	55 (90.16)
	21 – 23 years old	6 (9.84)
Year Level	Level III	21 (34.43)
	Level IV	40 (65.57)
Family Monthly Income	Less than Php 1000	6 (9.84)
	Php 1001 - 5000	8 (13.11)
	Php 5001 - 10000	13 (21.31)
	Php 10001 - 15000	12 (19.67)
	Php 15001 - 20000	7 (11.48)
	Php 20001 - 25000	6 (9.84)
	Php 25001 - 30000	6 (9.84)
	Php 30001 and above	3 (4.92)
Hours spent for studying	Less than 2 hours	8 (13.11)
	3 – 4 hours	37 (60.66)
	6 – 6 hours	15 (24.59)
	More than 7 hours	1 (1.64)
Hours of sleep/night	Less than 2 hours	2 (3.28)
	3 – 4 hours	22 (36.07)
	6 – 6 hours	37 (60.66)
	More than 7 hours	1 (1.64)

Table 2: Ratings on the Perceived Stress Scale Items

Indicators	MEAN	SD
I. Stress from lack of professional knowledge and skills		
Unfamiliar with medical history and terms	2.21	0.68
Unfamiliar with professional nursing skills	2.37	0.68
Unfamiliar with patients' diagnoses and treatments	2.31	0.78
II. Stress from assignments and workload		
Worry about poor grades	3.31	0.83
Pressure from the nature and quality of clinical practice	2.8	0.87
Feelings that performance does not meet teachers' expectations	2.62	0.88
Feelings that dull and inflexible clinical practice affect family/social life	2.19	0.91



Indicators	MEAN	SD
Feelings that the demands of clinical practice exceed physical and emotional endurance	2.51	0.91
III. Stress from taking care of patients		
Lack of experience and ability in providing nursing care and in making judgment	2.36	0.89
Not knowing how to help patients with physio-psycho-social problems	1.95	0.84
Unable to reach expectations	2.38	0.83
Unable to provide appropriate responses to doctors', teachers' and patients' questions	2.19	0.77
Worry about not being trusted or accepted by patients or their families	1.92	1.03
Unable to provide patients with good nursing care	1.7	0.88
Not knowing how to communicate with patients	1.26	1.07
Difficulties in changing from the role of a student to that of a nurse	1.85	0.92
IV. Stress from clinical environment		
Feelings of stress in the environment where clinical practice takes place	2.23	0.98
Unfamiliarity with ward facilities.	1.98	0.82
22. Feelings of stress from rapid changes in a patient's condition	2.15	0.91
V. Stress from teachers and nursing staff		
Seeing a discrepancy between theory and practice	2.26	0.89
Not knowing how to discuss a patient's illness with teachers or medical and nursing personnel	1.88	0.83
Feelings of stress when a teacher's instruction is different from expectations	2.67	0.78
Medical personnel lacking empathy and willingness to help	2.19	0.89
Feelings that teachers do not evaluate students fairly	2.13	1.2
Lack of care and guidance from teachers	1.93	1.04
VI. Stress from peers and daily life		
Experience of competition from peers in school and clinical practice	1.87	1.1
Feelings of pressure from teachers who evaluate students' performance by comparison	2.61	1.09
Feelings that clinical practice affects involvement in extracurricular activities	2.02	1.01
Inability to get along with group peers	1.19	1.12
GRAND MEAN	2.18	0.43

Legend:

2.67 – 4.00 High Stress
1.34 – 2.66 Moderate Stress
0 – 1.33 Low Stress

**Table 3: Rating on the Perceived Stress Scale Subscales** 

Indicators	Mean	SD	Rank
Stress from lack of professional knowledge and skills	2.26	0.46	2
Stress from assignments and workload	2.68	0.58	1
Stress from taking care of patients	1.95	0.58	5
Stress from clinical environment	2.12	0.66	4
Stress from teachers and nursing staff	2.18	0.65	3
Stress from peers and daily life	1.92	0.69	6

**Table 4. Ratings on the Physio-Psycho-Social Scale** 

Indicators	MEAN	SD
I. Emotional symptoms		
I tend to be worried and nervous	2.59	0.92
I tend to be nervous and anxious lately	2.51	0.89
I often feel depressed and miserable	1.93	1.01
I feel afraid without any reason	1.37	1.00
I feel I am going to have a nervous breakdown	1.26	1.18
I feel more anxious lately	1.93	1.09
I cannot calm down	1.11	0.96
II. Social behavioral symptoms		
I am not optimistic about my future	1.33	1.09
My life is not very colorful	1.24	1.02
I cannot work as usual	1.26	0.85
I have difficulty in making decisions	1.7	0.86
I do not feel needed or valued	1.34	1.01
I cannot think as clearly as before	1.67	1.04
III. Physical symptoms		
I often feel giddy	1.57	0.99
I experience nausea and vomiting	0.95	1.05
I often have vertigo and feel dizzy	1.16	1.11
I feel pressure in the chest	1.54	1.1
My fingers and toes feel numb or painful	1.09	1.1
I have stomach-ache and diarrhea	1.02	1
I have difficulties in breathing for no reason	1.16	1.11
I catch cold more often	1.59	1.2
GRAND MEAN	1.50	0.48

Legend:

2.67 – 4.00 Poor Health Status 1.34 – 2.66 Good Health Status 0 – 1.33 Best Health Status

**Table 5: Rating on the Physio-Psycho-Social Response Scale Subscales** 

Indicators	Mean	SD	Rank
Emotional Symptoms	1.82	0.67	1
Social Behavioral Symptoms	1.42	0.72	2
Physical Symptoms	1.26	0.71	3



Table 6. Multiple Correlations between perceived stressors, physio-psycho-social health and variables from students' information.

	Stressors													Physio-psycho-social health																				
Varia bles	Lack of professional knowledge and skills		professional knowledge		professional knowledge		professional knowledge		professional knowledge		professional knowledge		professiona knowledge		ts	gnmen and kload	car	king e of ients	envii	nical ronme nt	Teac ar nurs	nd sing		s and y life		erall ress	sym	tiona I otom		avior Il otom	•	rsical otoms		erall alth
	r	р	r	р	r	р	r	р	r	р	r	р	r	р	r	р	r	р	r	р	r	р												
Age	0.0 32	0.806	0.1 38	0.288 9	- 0.0 8	0.54	- 0.2 28	0.07 72	- 0.1 05	0.4 2	- 0.1 02	0.43 4	0.1 13	0.38 3	- 0.2 63	0.0 4*	- 0.2 1	0.1 04	- 0.0 25	0.84 83	- 0.20 8	0.10 6												
Gend er	0.1 14	0.381	0.1 87	0.381 7	- 0.0 49	0.70 7	0.0 48	0.71 34	0.0	0.7 13	0.0 85	0.51 4	0.0 48	0.71	- 0.0 29	0.8 24	- 0.2 34	0.0 69	- 0.0 42	0.74 7	- 0.13 1	0.31												
Year Level	- 0.4 79	>0.00 01*	- 0.4 28	0.00 06*	- 0.1 2	0.35 7	- 0.2 55	0.04 73*	- 0.1 83	0.1 58	- 0.3 29	0.00 9*	0.4 45	0.00 03*	- 0.0 97	0.4 57	0.0 26	0.8 42	0.2 29	0.07 5	0.07	0.58 3												
Family Mont hly Incom e	0.0 21	0.872	0.2 62	0.04 14*	0.0	0.54	- 0.0 5	0.70 2	- 0.0 04	0.9 75	0.1 65	0.20	0.0 82	0.52 8	0.0 11	0.9	- 0.0 7	0.5 91	0.0 05	0.96 9	- 0.03 3	0.8												
Hours spent for study	0.0 73	0.576 1	0.1 29	0.321 8	- 0.0 47	0.71 91	0.1 12	0.39 01	- 0.1 93	0.1 36	- 0.0 38	0.77	0.0 01	0.98 8	- 0.0 73	0.5 76	0.0 35	0.7 88	0.2 22	0.08 5	0.08	0.53												
Overal I Stress																					0.34 63	0.00 63*												

<sup>\*</sup> Significant Correlations